

*Spec. sheet a*

WHAT IS CLAIMED IS:

1. A flexible coating, the coating comprising: RTV silicone and urethane.

2. The flexible coating of claim 1, further comprising an additive.

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3. The flexible coating of claim 2 wherein said additive is a pharmacological compound.

10 4. The flexible coating of claim 1 wherein said RTV silicone is selected from the group consisting of methyltri-methoxy silane, methyltri-acetoxy silane, tetrachlorosilane, vinyl trimethoxy silane, organosilane ester tris[3-(trimethoxysilyl)propyl] isocyanurate, bis(trimethoxysilyl) propyl amine and gamma-ureidopropyl trimethoxy silane.

15 5. The flexible coating of claim 1 wherein said RTV silicone is methyltri-methoxy silane.

6. The flexible coating of claim 1 wherein said RTV silicone is methyltri-acetoxy silane.

20 7. The flexible coating of claim 1 wherein said urethane is selected from the group consisting of 4,4-methylenediphenol diisocyanante, 1,4-butanediol and polytetramethylene glycol.

25 8. The flexible coating of claim 1 further comprising a dye or pigment.

9. The flexible coating of claim 3 wherein said pharmacological compound is an anti-microbial selected from a group consisting of chorhexidene acetate, chlorhexidine gluconate, chlorhexidine hydrochloride, chlorhexidine sulfate, silver acetate, silver benzoate, silver carbonate, silver iodate, silver iodide, silver lactate, silver chloride, silver laurate, silver nitrate, silver oxide, silver palmitate, silver protein, silver sulfadiazine, polymyxin, tetracycline, tobramycin, gentamicin, rifampicin, bacitracin, neomycin, chloramphenical, oxolinic acid,

norfloxacin, nalidix acid, pefloxacin, enoxacin and ciprofloxacin, ampicillin, amoxicillin, piracil, cephalosporins and vancomycin.

10. The flexible coating of claim 3 wherein said pharmacological compound is an  
5 anti-fungal selected from a group consisting of tolnaftate, miconazole, fluconazole, clotrimazole, econazole, ketoconazole, itraconazole, terbinafine, amphotericin, nystatin and natamycin.

11. The flexible coating of claim 3 wherein said pharmacological compound is an  
10 phytochemical selected from a group consisting of grapefruit seed extract, tea tree oil and myrtle  
oil.

12. The flexible coating of claim 1 wherein said coating is flexible while allowing  
adhesion to deformable segments of a medical device.

13. The flexible coating of claim 3 wherein said coating further includes an  
emulsifier, wherein said emulsifier stabilizes in suspension said pharmaceutical additive.

14. The flexible coating of claim 13 wherein said emulsifier is selected from the  
group consisting of ethylene glycol disterate and ethylene glycol monosterate.

15. A flexible coating including RTV silicone and urethane for a silicone based  
medical device, the flexible coating being disposed on a deformable surface of the silicone based  
medical device and retaining adhesion to the deformable surface.

25 16. The flexible coating of claim 15, further comprising an additive.

17. The flexible coating of claim 16 wherein said additive is a medicinal compound.

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a* 18. The flexible coating of claim 15 wherein said RTV silicone is selected from the  
30 group consisting of methyltri-methoxy silane, methyltri-acetoxy silane, tetrachlorosilane, vinyl

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trimethoxyl silane, organosilane ester tris[3-(trimethoxysilyl)propyl], isocyanurate, bis(trimethoxysilyl) propyl] amine and gamma-ureidopropyl trimethoxy silane.

19. The flexible coating of claim 15 wherein said RTV silicone is methyltri-methoxy

5 silane.

20. The flexible coating of claim 15 wherein said RTV silicone is methyltriacetoxy

silane.

10 21. The flexible coating of claim 15 wherein said urethane is selected from the group consisting of 4,4-methylenediphenol diisocyanante, 1,4-butanediol and polytetramethylene glycol.

22. The flexible coating of claim 15 further comprising a dye or pigment.

15 23. The flexible coating of claim 17 wherein said medicinal compound is an anti-microbial selected from a group consisting of chorhexidine acetate, chlorhexidine gluconate, chlorhexidine hydrochloride, chlorhexidine sulfate, silver acetate, silver benzoate, silver carbonate, silver iodate, silver iodide, silver lactate, silver chloride, silver laurate, silver nitrate, silver oxide, silver palmitate, silver protein, silver sulfadiazine, polymyxin, tetracycline, tobramycin, gentamicin, rifampicin, bacitracin, neomycin, chloramphenical, oxolinic acid, norfloxacin, nalidix acid, pefloxacin, enoxacin and ciprofloxacin, ampicillin, amoxicillin, piracil, cephalosporins and vancomycin.

25 24. The flexible coating of claim 17 wherein said medicinal compound is an anti-fungal selected from a group consisting of tolnaftate, miconazole, fluconazole, clotrimazole, econazole, ketoconazole, itraconazole, terbinafine, amphotericin, nystatin and natamycin.

30 25. The flexible coating of claim 17 wherein said medicinal compound is an phytochemical selected from a group consisting of grapefruit seed extract, tea tree oil and myrtle oil.

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26. The flexible coating of claim 17 wherein said coating further includes an emulsifier, wherein said emulsifier stabilizes in suspension said medicinal additive.

27. The flexible coating of claim 26 wherein said emulsifier is selected from the 5 group consisting of ethylene glycol disterate and ethylene glycol monostereate.

28. The flexible coating of claim 26 wherein said coating contains between 30 to 70 percent by weight urethane, between 10 to 30 percent by weight RTV silicone, between 15 to 50 percent by weight medicinal agent and between 2 to 6 percent by weight emulsifier.

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29. A method for producing a coating for a medical article comprising: blending RTV silicone, urethane, and a solvent until dissolved.

30. The method of claim 29 further comprising the step of blending an additive until dissolved.

31. The method of claim 30 wherein said additive is a medicinal compound.

32. The method of claim 29 further comprising the step of blending a dye or pigment until dissolved.

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33. The method of claim 29 wherein said RTV silicone is selected from the group consisting of methyltri-methoxy silane, methyltri-acetoxy silane, tetrachlorosilane, vinyl trimethoxyl silane, organosilane ester tris[3-(trimethoxysilyl)propyl] isocyanurate, 25 bis(trimethoxysilyl) propyl amine and gamma-ureidopropyl trimethoxy silane.

34. The method of claim 29 wherein said RTV silicone is methyltri-methoxy silane.

35. The method of claim 29 wherein said RTV silicone is methyltriacetoxy silane.

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36. The method of claim 31 wherein said solvent is selected from the group consisting of ethyl lactate, methylbenzoate, propolyacrylate and n-Methypyrrolidinone.

37. The method of claim 29 further comprising the step of blending into said coating  
5 an emulsifier wherein said emulsifier stabilizes in suspension said pharmacological compound.

38. The method of claim 29 wherein said solvent is selected from the group consisting of toluene, hexane, xylene, tetrahydrofuran and cyclohexanone.

10 39. The method of claim 31 wherein said solvent is selected from the group consisting of C1-12 alkylesters of carboxylic acids.

40. The method of claim 29 wherein said urethane is selected from the group consisting of 4,4-methylenediphenol diisocyanante, 1,4-butanediol and polytetramethylene glycol.

41. The method of claim 31 wherein said medicinal compound is selected from a group consisting of chorhexidene acetate, chlorhexideine gluconate, chlorhexidine hydrochloride, chlorhexidine sulfate, silver acetate, silver benzoate, silver carbonate, silver iodate, silver iodide, silver lactate, silver chloride, silver laurate, silver nitrate, silver oxide, silver palmitate, silver protein, silver sulfadiazine, polymyxin, tetracycline, tobramycin, gentamicin, rifampicin, bacitracin, neomycin, chloramphenical, quinolone, oxolinic acid, norfloxacin, nalidix acid, pefloxacin, enoxacin, ciprofloxacin, ampicillin, amoxicillin, piracil, cephalosporins and vancomycin.

25 42. The method of claim 31 wherein said medicinal compound is an anti-fungal selected from a group consisting of tolnaftate, miconazole, fluconazole, clotrimazole, econazole, ketoconazole, itraconazole, terbinafine, amphotericin, nystatin and natamycin.

30 43. The method of claim 31 wherein said medicinal compound is a phytochemical selected from a group consisting of grapefruit seed extract, tea tree oil and myrtle oil.

44. A method of controlling the release rate of a medicinal additive from a coating vehicle comprising:

providing a coating vehicle including urethane, RTV silicone and a medicinal additive;  
determining a therapeutic dosing range of the pharmacological additive;  
determining pharmacokinetic properties of the pharmacological additive; and  
adjusting concentration of the urethane to the RTV silicone to achieve a desired release rate.

45. A method of producing a flexible coating having a medicinal additive comprising:

10 forming a first solution by blending about 0.5 percent to 10 percent by weight urethane with about 90 percent to 99.5 percent by weight of a first solvent;

forming a second solution by blending about 0.5 percent to 5.0 percent by weight of a medicinal compound with about 95 percent to 99.5 percent by weight of a second solvent;

combining 15 percent to 60 percent by weight of the first solution with 40 to 85 percent by weight of the second solution forming a third solution; and  
incorporating about 0.5 percent to 10 percent by weight of a RTV silicone into the third solution.

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